

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

1. (Withdrawn) A hybridization method which hybridizes biopolymers fixed to a plurality of sites on a biochip substrate and biopolymers movable in fluid stored over the same substrate, on said substrate, further being devised that said biopolymers on the movable side are moved along a surface of said biochip substrate by making an electric field act along that surface of said biochip substrate.
2. (Withdrawn) A hybridization method in accordance with claim 1, wherein the direction of moving biopolymers on said movable side is changed over by changing over the direction of said electric field during hybridization of said biopolymers.
3. (Withdrawn) A hybridization method which hybridizes biopolymers fixed to a plurality of sites on a biochip substrate and biopolymers movable in fluid stored over the same substrate, on said substrate, further being devised that said biopolymers on the movable side are moved along a surface of said biochip substrate as well as are attracted towards the surface of said same biochip substrate by making an electric field and a magnetic field orthogonal to each other act along that surface of said biochip substrate.
4. (Withdrawn) A hybridization method in accordance with claim 3, wherein the direction of moving biopolymers on said movable side is changed over by changing over the directions of

Amendment
Serial No. 10/730,061
Attorney Docket No. 032019

said both electric field and magnetic field at the same time during hybridization of said biopolymers.

5. (Cancelled)

6. (Cancelled)

7. (Currently Amended) Hybridization equipment comprising:

a biochip prepared by fixing biopolymers to a plurality of sites on a biochip substrate,
positive and negative electrodes for generating an electric field along the surface of said biochip substrate, and

a magnetic field generating means for generating a magnetic field along the surface of said biochip substrate;

~~wherein said biopolymers are movable along the surface of said biochip substrate in a fluid stored over said biochip substrate and are attracted towards the surface of said biochip substrate during hybridization of said biopolymers, by making said electric field and magnetic field act along the surface of said biochip substrate,~~

wherein the electric and magnetic fields generated by said electrodes and said magnetic field generating means simultaneously act along the surface of said biochip substrate to move said biopolymers along the surface of said biochip substrate in a fluid stored over said biochip

substrate and to attract said biopolymers towards the surface of said biochip substrate during hybridization of said biopolymers,

wherein said electric and magnetic fields are perpendicular to each other, and

wherein said positive and negative electrodes are bow-shaped backwards against said sites.

8. (Previously Presented) Hybridization equipment in accordance with any of claims 7, 15, 16 or 17, wherein a direction of moving said biopolymers is changed during hybridization of said biopolymers by changing over directions of said electric and magnetic fields.

9. (Previously Presented) Hybridization equipment in accordance with claim 8, wherein said positive and negative electrodes are attached to said substrate directly, or indirectly through fixing members so that said sites are sandwiched between said electrodes.

10. (Previously Presented) Hybridization equipment in accordance with claim 8, wherein magnets are used or a coil is used for said magnetic field generating means.

11. (Original) Hybridization equipment in accordance with claim 10, wherein said biochip substrate is placed inside said coil if said coil is employed for said magnetic field generating means.

12. (Previously Presented) Hybridization equipment in accordance with claim 8, wherein a DC power supply or an AC power supply is used as the power supply to apply a voltage to said electrodes.

13. (Previously Presented) Hybridization equipment in accordance with claim 8, wherein said fluid is liquid or gel.

14. (Previously Presented) Hybridization equipment in accordance with claim 8, wherein said substrate is formed with a plate or wire or mesh.

15. (Withdrawn) Hybridization equipment comprising:

a biochip prepared by fixing biopolymers to a plurality of sites on a biochip substrate, positive and negative electrodes for generating an electric field along the surface of said biochip substrate, and

a magnetic field generating means for generating a magnetic field along the surface of said biochip substrate;

wherein said biopolymers are movable along the surface of said biochip substrate in a fluid stored over said biochip substrate and are attracted towards the surface of said biochip substrate during hybridization of said biopolymers, by making said electric field and magnetic field act along the surface of said biochip substrate, and

wherein one of said positive and negative electrodes is a single straight-line electrode, and the other is comprised of a plurality of individual electrodes, each having a shape selected from the group consisting of circular, ellipsoidal, and rectangular.

16. (Withdrawn) Hybridization equipment comprising:

a biochip prepared by fixing biopolymers to a plurality of sites on a biochip substrate, positive and negative electrodes for generating an electric field along the surface of said biochip substrate, and

a magnetic field generating means for generating a magnetic field along the surface of said biochip substrate;

wherein said biopolymers are movable along the surface of said biochip substrate in a fluid stored over said biochip substrate and are attracted towards the surface of said biochip substrate during hybridization of said biopolymers, by making said electric field and magnetic field act along the surface of said biochip substrate, and

wherein said positive and negative electrodes are comb-teeth shaped and said sites are arranged between said comb-teeth of said electrodes.

17. (Withdrawn) Hybridization equipment comprising:

a biochip prepared by fixing biopolymers to a plurality of sites on a biochip substrate, positive and negative electrodes for generating an electric field along the surface of said biochip substrate, and

Amendment
Serial No. 10/730,061
Attorney Docket No. 032019

a magnetic field generating means for generating a magnetic field along the surface of said biochip substrate;

wherein said biopolymers are movable along the surface of said biochip substrate in a fluid stored over said biochip substrate and are attracted towards the surface of said biochip substrate during hybridization of said biopolymers, by making said electric field and magnetic field act along the surface of said biochip substrate, and

wherein said positive and negative electrodes are separated from said substrate, and are disposed on an electrode holding member.